Utah's National Ground-Water Monitoring Network Effort

Janae Wallace

Participants- UGS GW staff

- Samplers:

Hugh Hurlow, Stefan Kirby, Lucy Jordan, Paul Inkenbrandt, Richard Emerson, Brittney Dame, Janae Wallace

- Data portal:

Brian Swaner, Nate Payne, Paul Inkenbrandt, Janae Wallace, Richard Emerson

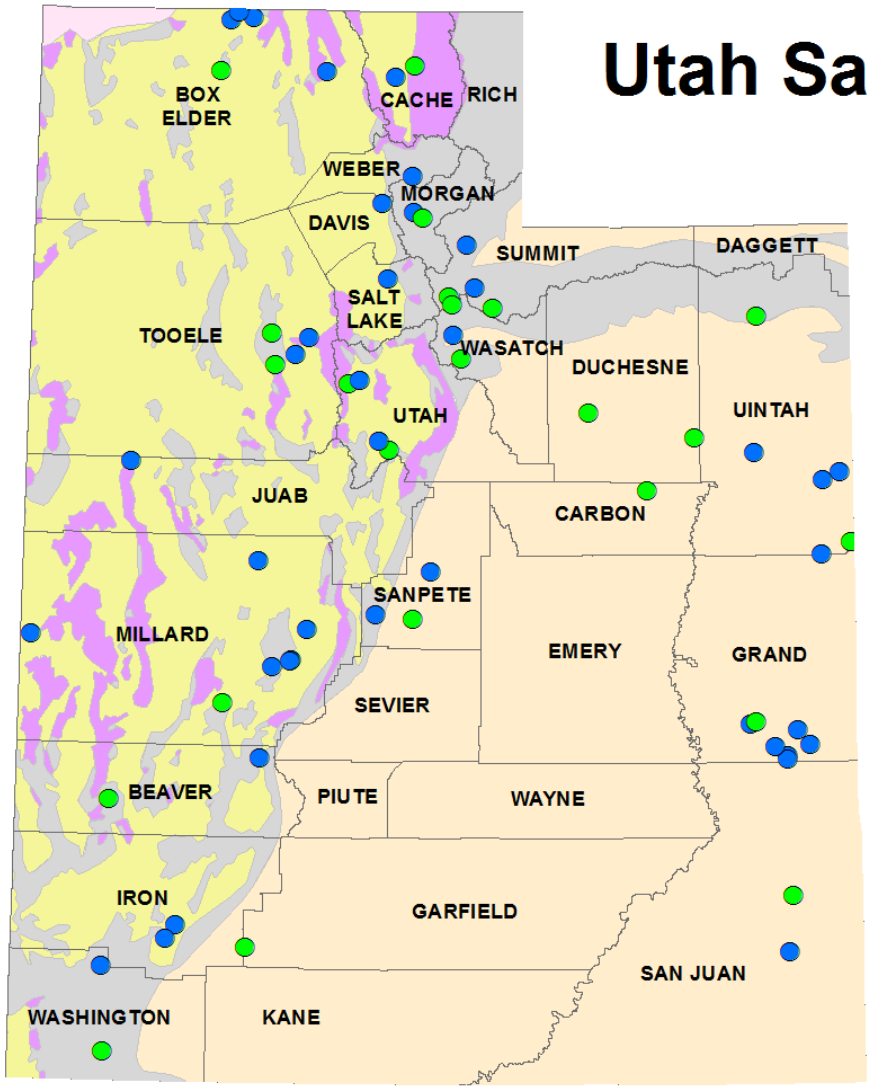
Selection Criteria

- USGS Principle Aquifer (e.g., Basin & Range Carbonate, Basin Fill, and local aquifers)- wells and springs
- Prior Sampling Data augmented by new sites
- Accessibility
- Geographic Spread
- Aquifer Importance

SITE STATISTICS-2014

- 40 wells
- 23 springs
- 2 Carbonate Aquifer
- 23 Basin and Range
- 21 Colorado Plateau
- 17 transition zone and other

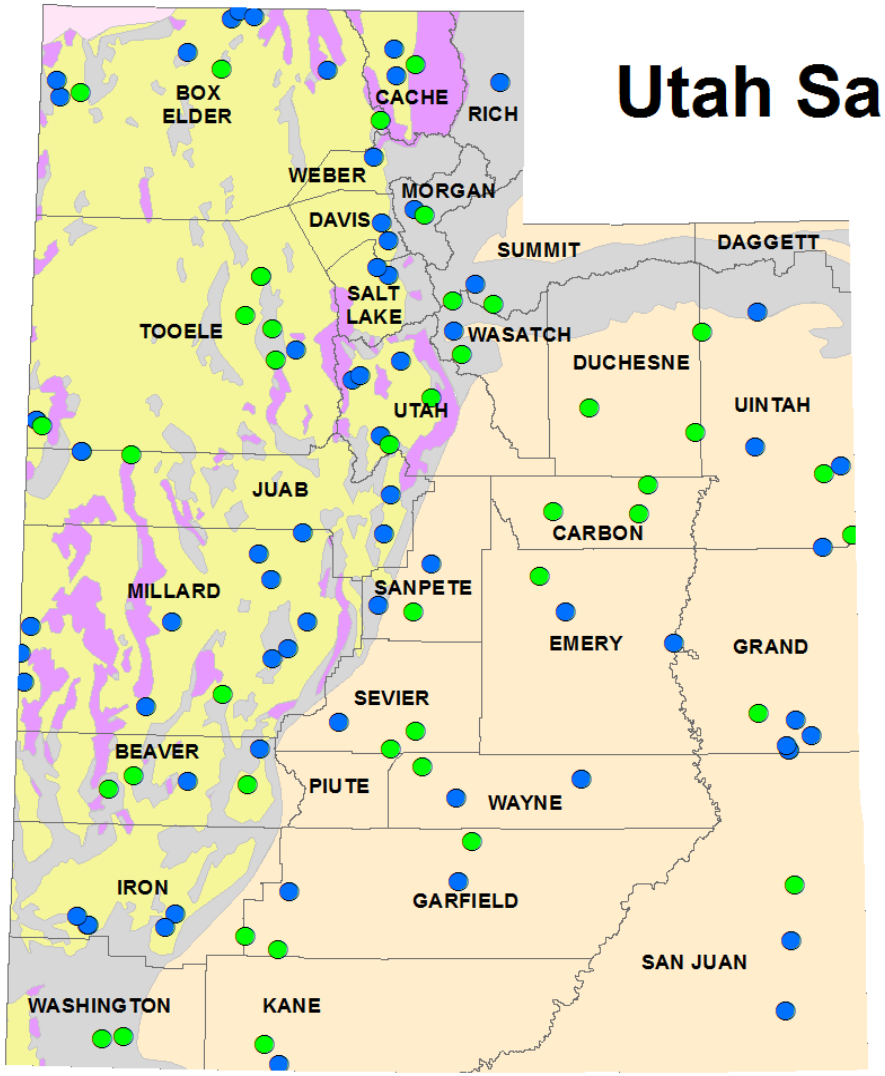
Utah Sample Sites NGWMN 2014



- Spring (23)
- Well (40)

NAWQA Aquifer

- Colorado Plateaus aquifers
- Basin and Range basin-fill aquifers
- Basin and Range carbonate-rock aquifers
- Other rocks
- Pacific Northwest basin-fill aquifers



Utah Sample Sites NGWMN 2015

- Spring (42)
- Well (68)

NAWQA Aquifer

- Colorado Plateaus aquifers
- Basin and Range basin-fill aquifers
- Basin and Range carbonate-rock aquifers
- Other rocks
- Pacific Northwest basin-fill aquifers

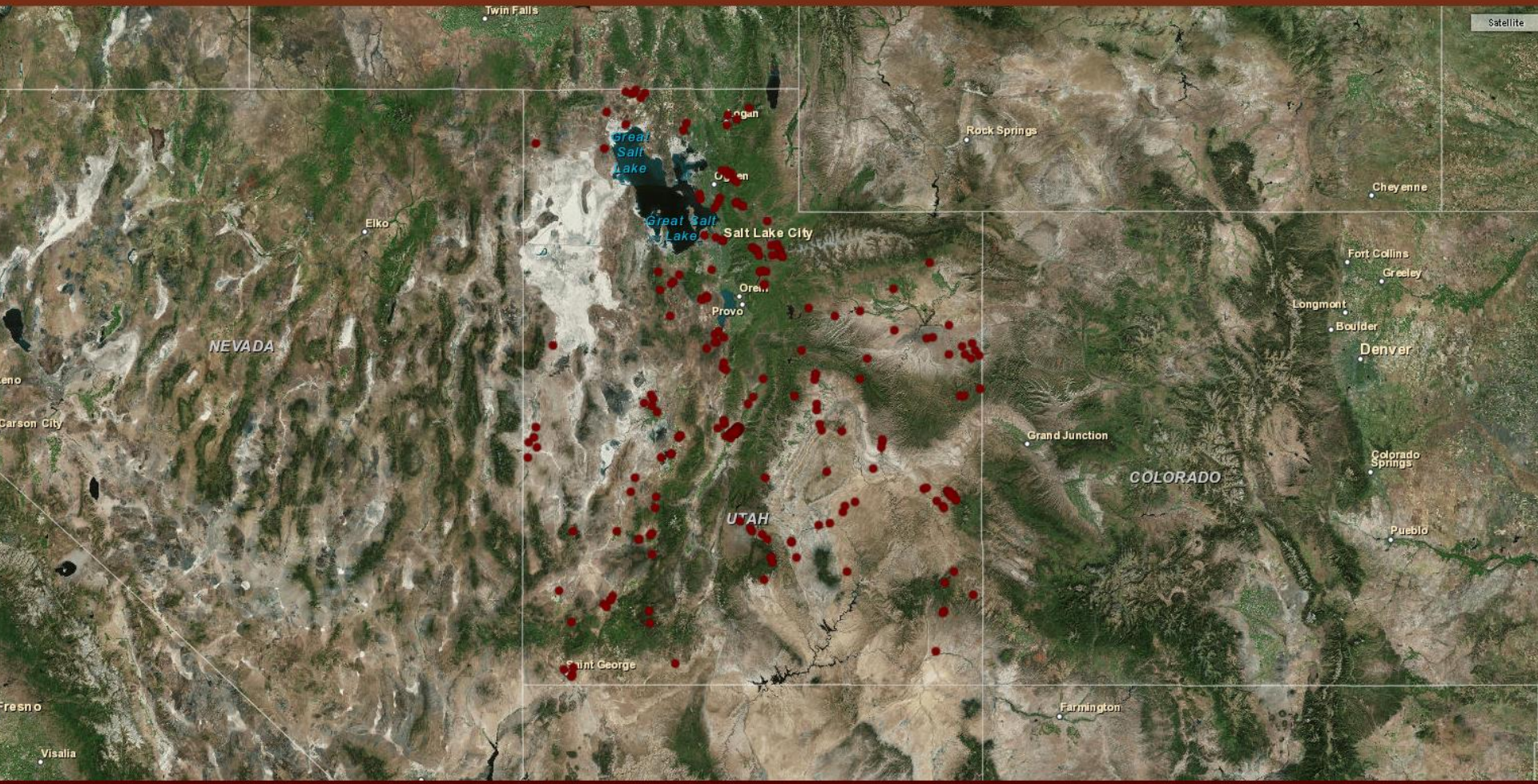
SITE STATISTICS-2015

- 68 wells
- 42 springs
- 2 Carbonate Aquifer
- 52 Basin and Range
- 39 Colorado Plateau
- 17 transition zone and other

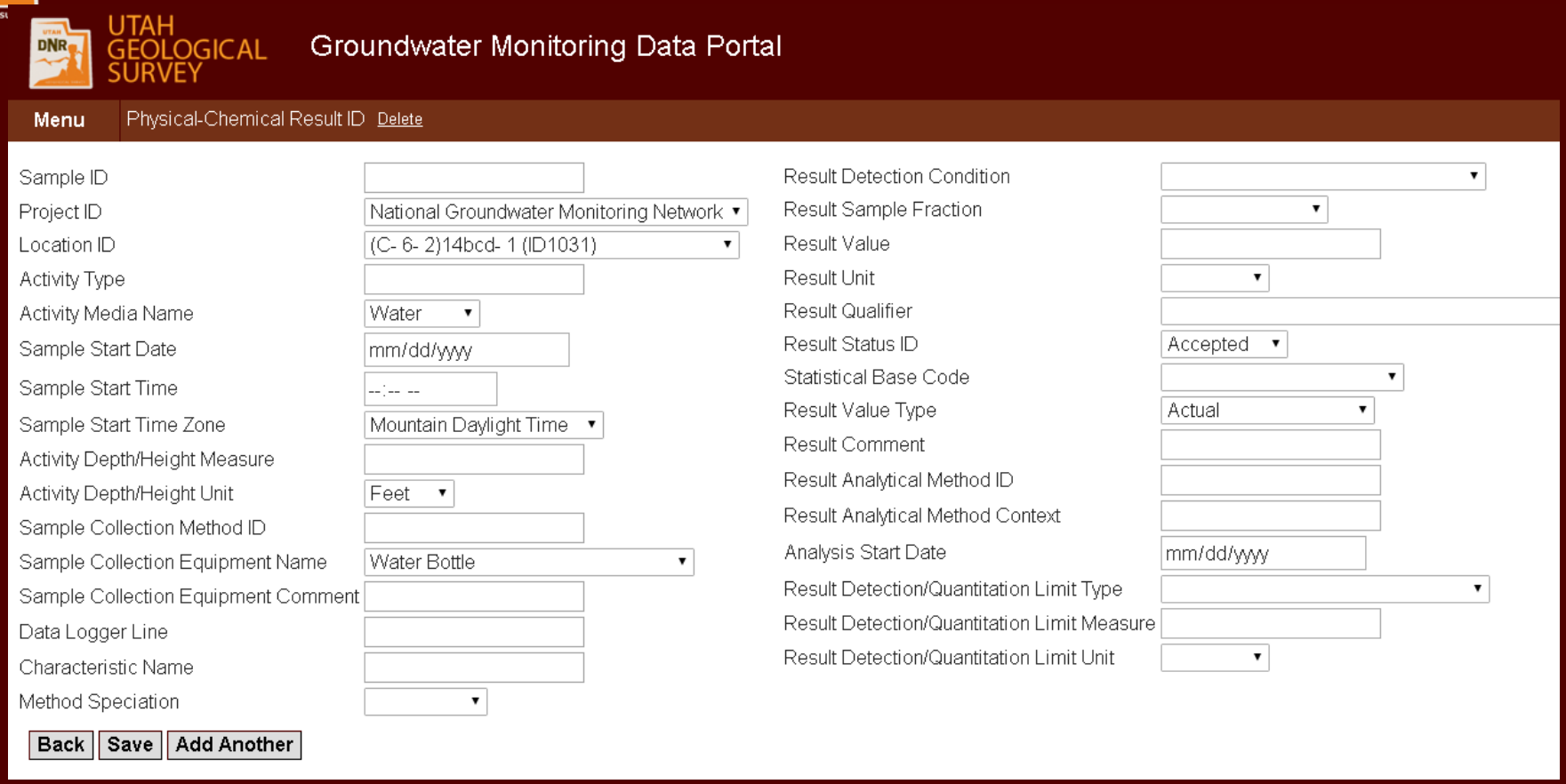
TASKS 2015-2016

- QAPP establishment (adopted and modified from previous UGS investigations)
- Added sites to those collected in 2014
- Develop and maintain database
- Flow of UGS water quality data to NGWMN

Groundwater Monitoring Data Portal



Water Quality Database



- Over 41,000 stations
- Over 12 million records
- Data from: SDWIS, NWIS, EPA, UGS, UDOGM, UDWR

This screen allows for input of sample data into our database
Many of the fields are domain limited – meaning that the end user can only put in allowed information

STATUS –data transfer

- We are very close to uploading our stations to the NGWMN (portal)
- We have a complete station list with most of the information we need for each station
- QA/QC our station list to remove misplaced points, duplicate sites, and inactive stations
- Station ID and other fields must be verified before we upload onto the NGWMN site

DATA TRANSFER

- Brian Swaner (IT) has created a mobile-ready interface that we can use to add stations and water quality results to our database
- The schema that the interface uses is the same as the WQX/STORET schema,
  - Some additional fields are included for the NGWMN
  - Allows for rapid upload to the WQX/STORET database

DATA TRANSFER

- Once we finish Beta Testing the App that Brian made, we can make it live and bulk upload ALL of the UGS's chemistry data
  - Including NGWMN
  - We designed the app and database in a way that allows the end user to easily select only NGWMN data
- We can provide NGWMN with a link that allows them to rapidly upload our station data onto their site
- Results data will go directly to the WQX/STORET from the UGS

Clear Search | Search

350 results found.
Showing records 1 to 50.

Location ID	Location Name	Location Type	State	County	Latitude	Longitude	Horiz Coll Method	Horiz Coord Ref System	HUC8	Well Type	Aquifer Name	Well Formation Type	Depth Measure	Depth Measure Unit	Tribal Land Indicator	Tribal Land Name	File Nam
UT384043109411501	Archview Campground		UT	Grand	38.67867809	-109.68754766					121JLTT						
UT383747109214001	6				38.62975	-109.36113889					ColoradoPlateau						
UT383927109255101	7				38.65744444	-109.43077778					ColoradoPlateau						
UT383832109244001	9				38.64230556	-109.41102778					ColoradoPlateau						
UT383709109230701	11new				38.61908333	-109.38527778					ColoradoPlateau						
UT394810109043401	UB15				39.80286	-109.07612					ColoradoPlateau						
UT392744109170301	UB17	Spring			39.46214337	-109.284259					ColoradoPlateau						
UT395723109345001	UB18				39.95643	-109.58047					ColoradoPlateau						
UT394835109243901	333				39.8096	-109.4108					ColoradoPlateau						
UT395239109161101	337				39.8774	-109.2698					ColoradoPlateau						
UT391950112351101	Delta1 (413)				39.330683	-112.586467					Basin and Range basin-fill aquifers						
UT392414112435601	Delta3 (451)				39.4038	-112.732333					Basin and Range basin-fill aquifers						
UT390637113553201	Snake Valley PW09B				39.110317	-113.92557					Basin and Range carbonate-rock aquifers						
UT391156113541901	Snake Valley PW06D				39.198845	-113.90527					Basin and Range carbonate-rock aquifers						
UT390143113533001	Snake Valey PW07A				39.028572	-113.891754					Basin and Range basin-fill aquifers						
UT374354113051301	Cedar City2 (26) 73-1984				37.731767	-113.08705					Basin and Range basin-fill aquifers						
UT381654112393801	Beaver2 (73) 77-1892				38.281731	-112.66058					Basin and Range basin-fill aquifers						
UT381454112471701	Beaver3 (54) 77-1043				38.248199	-112.78815					Basin and Range basin-fill aquifers						
UT381454112471701	Beaver4 a16698				38.248199	-112.78815					Basin and Range basin-fill aquifers						
UT381911111332501	95-4729				38.31959911	-111.55686425					ColoradoPlateau						
UT415729112502701	Curlew 188				41.95812776	-112.84074532					Basin and Range basin-fill aquifers						
UT414808113081601	Curlew 20				41.80214506	-113.13768195					Basin and Range basin-fill aquifers						
UT415803112553901	Curlew 124				41.96755562	-112.92759331					Basin and Range basin-fill aquifers						
UT390622111464001	Centerfield2 (301)				39.106175	-111.777757					Transition						
UT392726111323801	Chester1 (493)				39.45735	-111.543867					Transition						
UT390811111453901	Centerfield3 (325)				39.136412	-111.760734					Transition						
UT395440111555601	Goshen2 (587)				39.911191	-111.932274					Basin and Range basin-fill aquifers						
UT395127112025701	Nelson Springs (564)				39.857467	-112.049204					Basin and Range carbonate-rock aquifers						
UT395854111572401	Elberta (605)				39.981656	-111.956628					Basin and Range basin-fill aquifers						
UT410805112074101	WIN31139				41.134738	-112.12801334					Basin and Range basin-fill aquifers						
UT410119111572601	WIN31809				41.022028	-111.95731724					Basin and Range basin-fill aquifers						
UT370359113311501	81-386				37.06629896	-113.52094695					Other rocks						
UT410340111434901	35-777				41.06099618	-111.73023238					Transition						
UT414142111495701	USUFARM	Well	UT	Beaver	41.698308	-111.832017	GPS-Unspecified	NAD83		Irrigation	100VLFL	Unconsolidated Sediment		ft	0		
UT394146111521201	53-595				39.69619975	-111.87009734					Basin and Range basin-fill aquifers						
UT411519111450501	411522111451201 (unnamed spring)				41.2553378	-111.7512724											
UT411941111525301	411941111525001 (Lime Kiln Spring)				41.3280528	-111.8813385											

Output of a query of locations in the database

Observations-Issues

- Included gaps in coverage by County (or HUC)
- Collect samples from April to October
- Included alternate sites to sample and measure- expanded number of samples
- QA/QC sites (ID's consistent-NWIS-, trend?, issues with background, suspect, documented changes)

Castle Valley

UINTA BASIN- King's well
Nitrate conc. 9 to 10 mg/L